Rec Jan 7
Ans Jan 9 p.c.
Ans Jan 16

Pentstemon corrected
Jolene?

HERBARIUM OF HARVARD UNIVERSITY,

BOTANIC GARDEN, CAMBRIDGE, MASS.

January 3 1877

Dear E.

I have been so hard-worked that I have only time enough to read your two new papers. We are so crowded, too, in Sill. Jun. that I can only give a reference — notice. When Mr. I should like to give a talk.

I like to see such conscientious work

I think you will at last make that pentstemon a good species. I don't think it ever has short lung names, but Dana, Torr, Gray & Pursh "Pursh" should be "Pursh." i.e. Pentstemon,

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P. 19 "Nevadensis" should be
" Nevadensis"

Juniperus sabinoides.

"Coast-ranges" Mc
Donald Mountains in Siskiyou
mts. & Lake
"Sitgreave's" P. 7. should
be Sitgreaves'
His name was Sitgreaves.

I shall to-morrow
finish Abietineae
& take up Acanthaceae,
the former is an
Austrian

Stopping Sundays to go

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GEORGE ENGELMANN PAPERS

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Rec'd Oct 16'
Ans — 24

prof Asa Gray

My Dear Engelmann

HERBARIUM OF HARVARD UNIVERSITY,

BOTANIC GARDEN, CAMBRIDGE, MASS.

Feb. 13 187

A nice, kind letter
of yours of Feb. 6. —
Let us note some
particulars. -

"Cerci di Phyllium" Linn. sabe?
It is Zaccagnini's Genus.
Now-a-days applied to
Magnoliaceae (Schizandreae)
but a most doubtful thing.

— McNab's Critter — things
next to you, at once.

I have just read Flora
Brasil., through Asclepias
— delayed by my fortnight at
Washington.

"Gonolobus pubescens L." "Yes
are right, & I take it is R. Br.
in Flora — will make it so —
a slip, Asa Gray, Chapman

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proves that it has smooth
pod. Curtis must have been
mistaken. Melicharus is
all uncertain.

Your puzzling smooth
pod without angles is a
Rorippa — (I return it
that you may compare.

Adelpias — divisions —
yes. Not in the Flora
the key & divisions work
in better, I hope. I have
a distinct plan — & on the
whole I like it work.
In Flora it pares words
words & space to have
the divisions & subdivisions
run pretty fine.

Misprints — & more — my
slips are pretty awful.
Thanks for corrections.
The 1st line authors for authors
is a misprint.

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Same as P. 72. 476

Asclepias syriaca. —
Well, too much letter to in=
troduce the word. For the
rest thing, which you
were not making up and
I was. Sorry, know of
I was making this when my=
self should have sent me
the specimen.

I am glad you approve
the author's misc char=
acters,

The fact is you have
yet to make nice, and
nice prints — a short
the hands, not personally to
be relied on, else Asclepias
would take in all our mon=
ocotyledonae and all
the Cape ones.

Well, it is a fault, I
suppose, but I like to
make in additions characters
ters, as well as the more weighty

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Asa:

I cannot find any "Gress 784". Where can I have put it?

Remember that I shall be on Cuscutaceae one of these days, and enjoy lend for Cuscuta

Ever yours

A. Gray

Lecce 5. March 1.

Engl. 784. Rec. March 4th 1897 a -28

I have not seen this before. If I have it, it is wholly misplaced. Note that there is a short ascending cortex on the stalk of the pollinium. which is the mark of Asclepiadaceae. But this is small. If Bentham did not regard that, I think he would put it in his Vincetoxicum. But it has peculiar characters, The specimen, I believe, is to be returned to you. Shall I send it to Bentham, and ask him what he would make of it? The 1st flower I took up to work had all the inside eaten out. I have examined only one flower.

Gutiana Mishizeni! Better late than never! I was just reading proof of Gentianaceae up to the first part of the Gentianthe. Mitta must work I will work in G. Mishizeni, pity I had it not before!

I give you notice that I am going on straight in the order

Stink. & Bunk. — Have at last
shall to-morrow give out
to Minks some of Plemmica and
I keep one compositor going on
steady. I am now revising
my proofs, in Botanica cede. I
then have to do Conchyliceae,
when only [illegible] thing left to do. —

I mail you a set of
last proofs up to p. 86. — I
will soon send rest of Asclepiad.
and so on. Keep the file
safely. — make notes. & return
to me. — hope these —

I wish you were here, on the
spot.

I doubt if I have any partic=
ular new Cyperaceae under the
Sun. Do them after the model I
the proofs. Divide up &
and do not repeat in spec. descr.
what is in the sections & subsections,
I am unwell to-day. Old
coming on? the (1st) of the season.

I have one doctrine that there
must always be terminal bud, in
esse, — Ther. I doubt about actual
forking of terminal bud as a mode
of explanation of various things.
I had [illegible] you come to Sr. Louis
in Gentiana — Could not wait, any
way,

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A. G.

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Acc'd March 9th
'88 — 28

Herbarium of Harvard University,

Botanic Garden, Cambridge, Mass.

March 5, 187 9

My dear Mrs. Thurston

Missives are in hand. — I had to wait till I got proofs from the Minn — which to-day I got up to all but a few of the last Onemnatlus I have worked in the G. Michiganii — glad to get it in time, & called all your notes & seeds & the other species. Mr' I do not make the seeds prominent in the subdivisions I had worked out (thanks to your aid when here) all the seeds pretty well, & the differences are greater than between some of your sketches here. & the new seeds. I will send you revised proofs. — The seed-characters work well

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Missouri Botanical Garden

but these B. affinis,
your Arizona (which I
restore), & pulcella vary
into each other, & these
& B. Elliottii, & Drummondii
& Andrewsii pass over
constant differences
& find a very little between
Parryi & Calycosa, —
the former Hunter.
I restore Menziesii
thus in part &
very tardy

Asa Gray

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GEORGE ENGELMANN PAPERS

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My brother-in-law, Loring is procuring some Mound pottery from you, and he wishes me to interest you in the matter. The pottery is for the Boston Art Museum, of which Mr. Loring is director and a trustee, and to which he gives all his mind and soul, and is most anxious to have every good thing in it.

I believe our Academy museum has arranged for a share of this pottery, long ago.

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Rec 27 Apr

Ans 2.

HERBARIUM OF HARVARD UNIVERSITY,

BOTANIC GARDEN, CAMBRIDGE, MASS.

April 24 187 7

At this minute the Cuscutaceæ are in my hands — minus Cuscuta, and the mite is a Bignoniaceæ — the preceding family. So I want Cuscuta. Looking over to see if I have any unnamed — I find a very little — & those I send you, in a mail-parcel to-day.

My last from you is March 27. Mrs. Gray has meanwhile sprained her ankle and has been much laid up — now hobbles round, & drives out. So we have lost dear old Asa! Was it pneumonia?

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I write to-day and the
mess Brickpiad to Bentham
am. & tell him to re-
turn a post. That will
do for us.

Will next time you
want any New Hampshire
Plants — let them be
sent to me on 4th
proof first

Mats in & Surgent
are all busy as ever.

Yours etc
A Gray

Mrs. up the Engenta!

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Rec 25 May
ans 28 May

HERBARIUM OF HARVARD UNIVERSITY,

BOTANIC GARDEN, CAMBRIDGE, MASS.

May 24 187 7

Dear Sir

I owe to Bentham's response on the Gnaph 784. I have not time now to look in it to see if the structure is as he supposes.

Thanks is my ole, Reading from James.

Yours truly A.G.

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Rec'd June 12th 14

My Dear Engelmann

HERBARIUM OF HARVARD UNIVERSITY,

BOTANIC GARDEN, CAMBRIDGE, MASS.

June 9 187

I have been trying for a week or two to find a moment in which to write you a line. I sent you a memoir by Gray. He says that you & Mrs. E. should get away some- where into a cool place for summer.

Mr. Starkey (if nothing more prevents) is coming over here - he here early in July. He & D are to be put in Sturgeis stuff - some - Musically, and make

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Rocky Mt. Reminisces.

Go first to Colorado —
as for South West as there
remain rail-roads will take
us. Visit Parks & Passes
Peaks etc. & then

go north. —

Now you & us & go
to some of these nice
places. Colorado Springs,
Manitou, or wherever —
and then let us meet
together over the
Pass Cache Pueblo on
the borders of N. Mexico —
Pass this country, & take
think a few mountains,
& have a good time.

I shall send you
list of Guests

I send you some
more sheets. Some
time I am to have
these sheets back, with
your annotations

Yours ever.

A Gray

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7 June 77

HERBARIUM OF HARVARD UNIVERSITY,

BOTANIC GARDEN, CAMBRIDGE, MASS.

Opened my letter to 187
acknowledge yours of
just in:
Thanks for Selenia seeds
Can't help you about de-
bat: It is or was, at
Dulkie. I suppose you
should have added, Trinity
College - " or Dulkie University:
Try pin the rev. Oliver F
Kane, who will know or find
out.
— Yes, &c.'s article takes
the ground I have always
insisted on. I have an
Article (entire) in Amer. Jour.
which will suit you. Agave. In
Bot. sub-Genus Manfreda
we will talk that over. —
A.G.

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Rec June 16 74
an — 21

HERBARIUM OF HARVARD UNIVERSITY,

BOTANIC GARDEN, CAMBRIDGE, MASS.

June 12 1877

My Dear E.

Dr. Stephen is delighted at the prospect of having you on our excursion through Colorado. He hopes to be accompanied by one of his best men. a Mr. Stevenson — to take all care of us, and he will very likely be with us to.

The President of the road has given me passes for our party, including you, from Kansas City to Pueblo, Dr. Landrum, & that Denver pass — so far as I can see. —

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and will put you over
every hit of them mad.
Ste is to get passes for
us all — you included —
unless you have them —
from St. Louis to Kansas
City. I am daily
expecting to hear from
Stokes — when he will
start. — will let you
know. But I am so
hopeful middle of
July, expect us at
St. Louis, and have
your traps packed,
We will have a jolly
time. Yours ever

Asa Gray

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Nobody answers
Dear E. Miss of the
CO" is here
Mulliehamp has sent me
oceans of the Brooklyn Museum
flowers. — & now has sent
G. Robinson — also to you. Be
sure

I am glad you have
settled the chair. It sticking.
It makes those nuts you
gave here — (& took some)
intelligible. Make a little
paper on it.

I Atlantic I have not the
Supplies a you Check of — Unless
encumbered with the encumbrance.

Yours ever.

A. S

I thot in day or two to send you
some of Cuscuta — so that we can
print that off. Shall we take the Leguminosæ
vacation? — & I'll in ill for a week's
& your books. — I can't see the Bap=
tisia ill. Come & see me. 187

Monday Evening.

Rec'd June 29th
am — 30

My Dear Sir.

I was at Beverly on
Sunday, & did not get
your letter till this
morning.

I am pleased that
much as you are.
If I were left alone
I should cut these Gram=
petales all mixed off by
by and by summer —
and it would be a good deal
in my product — or rather
less cut of it for a consid=
erable time.
But I had always
promised — & knew that
when he wanted come
I would take a run with
him! and so it came about!

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Unless something prevents,
and I shall probably
know by next mail —
perhaps to-morrow — when
will sail on the 28th —
In that case, as our
time is to be short — we
hope to have you on
the 12th at Cincy. Phila
delphia on the 14th — and
Cincinnati early in Dec=
— or there about.
Sidney the season &
how much is before us —
(for we may very likely
go to California, too), we
must stop over (only a
day or so) at St. Louis,
to see Strodley (E. Indian
traveller, &.) & talk and
arrange with Walker. I will
be with us as far as Cincy,
I hope just papers enough
over the road from Kansas city

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GEORGE ENGELMANN PAPERS

to Ouello in this party;
~~that is second to pass~~
i.e. pass to Sanborn
prep. & three friends
that is to be. My wife
& you & myself. If you will
have it. If you
omit, I shall give
three passes to Gen.
Sherman, Sanborn
has given three to
the Ouellos & Sherman

If you only go,
I will ask for one
more pass — but I dont
care to ask for 2 more,
and the Strachens have
no claim for them.
So I want to know
what you will do before
I hear from
Dr. Sanborn, who is

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Dear Sir as soon as you should receive this you will probably see your name in the papers. I have given him your address.

Darcy will be here a week hence. Sargent wants him to collect conifers and for him in Rky. Mt. in Sept. perhaps he may also be with us.

It will be very jolly to have you. — such a botanical team as we will make!

Hooker's idea of a Dictionary that of Colorado publications — which — as it turns out, is only. It suits Sargent better too. He puts us [illegible] on his journey. — and we make him a report — all three of us joining in it. Ladies we can leave at and places where we are not any thing wrong. Paper like

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Rec July 6
Ans —— 7

HERBARIUM OF HARVARD UNIVERSITY,

BOTANIC GARDEN, CAMBRIDGE, MASS.

July 3 187 7

The things arrived—
(Investigation &c—) have not
come yet.
You are going to have
all N. Mex. Lycopodiaceae
& Equisetaceae to do for
my Flora, as soon as
you can get ready
to set about it. So what
and in a piece—meal
way as the fern Californian,
which probably Watson
has done pretty well.
So that need not stand
in the way of your having
a months holiday.
The idea is that we
will have Sunday 15. in
Cincinnati, and leave there
Sunday night for St. Louis—
so reach there one time



Monday 16th —

Your letter to Watson
pressed to imply we might
[illegible] your company.

I think you should go
with us to Colorado, Scatter
I do not know that I can
procure any facilities, But
I understand that St. Louis
has will be to you as his
mad. & I can pass you
from Kansas City to Pueblo.

But if you go, and
want to come back that
way, please telegraph me
so that I can secure a
return pass. I have some
and do not wish to ask
for it unless sure it will
be needed.

Yours ever.

A Gray

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Dear A. T. Acc[d] July 7th

HERBARIUM OF HARVARD UNIVERSITY,

BOTANIC GARDEN, CAMBRIDGE, MASS.

July 4 187 7

Never mind if you are
70. Stokes is b.v. &
I am between. and
we are lively yet

Perhaps the young fellows
may knock about rather
faster than you like:—
wanting to do much in
a little time. But then,
you need not do so
much in clouds as we.
— take the easy part.

I shall be sorry if
you fail us, — and, unless
I hear more favourably for you, I will not
ask for a return pass for
Pueblo for you. Yet I
still hope next letter
will bring a change of mind.

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Be sure I'll keep you posted.
Should like to go to the Mountains

Ever

A. G.

x1

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I fear it is of no use to
tell you that I held
a pass for myself &
5. from Ogden to
California, & back, in
the letter accompanying
which you are mentioned as one of the
party. For I fear the
Californian post may
be too swift for us.

—

Thanks for the Mss
back. I will fix it
all right.

We must turn in
Cascata, as we turn in
the rest of the link.

For real accuracy
we must finally come
to the terms Isotropic —
entropic & antitropic,
We cast out watch-hands
in to a god from the descrip-
tion of order, forms, &c —

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Rec'd July 14 84

HERBARIUM OF HARVARD UNIVERSITY,

BOTANIC GARDEN, CAMBRIDGE, MASS.

July 11 187 ?

My dear Engelmann

Rev. Thos. C. Porter,
Easton, Penna. who is
working for Rothrock,
wants to [illegible] some of
my Gramineae work;
So I have told him that
he will receive from
you, by mail the file
I have in your hands —
and which he must return
to me — that I may have
your marks in it.

Please, therefore, send
on that put to him.
Obliged
Yours ever
I send with this the
pp. 217 — 232, —

A. Gray

1 Engl. Inch = 25,399 mm
25,4 mm
1 Meter 39,37 Inch

5,33 : 12 = 1

12 5,33 / 0,44
48
53
5

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Rec July 24th
ans July 25th

R. R. from Canon City
to Pueblo.

Dear C. If Mrs Thomas asked for
Euphorbia is the one you
I have made good specimens. The
round-leaved one is on the hills, & is
not yet out - is not the one. I am sure.
We had yesterday a grand day (with
Grandeses) at the Arkansas
Canon. It is grand, surely.
To-day Hooker & the Shrackengs drive
& ~~dine~~ visit Mt. Valley to La Veta.
(2 long days) while me. Mrs. G. & Dr
Hayden and I return by R. R. to Pueblo.
& thence to La Veta - by ~~rail~~
To-morrow up to a
camp on Larkin Pass - & Sample
de Christo Mts. where ~~I~~ Capt. Sterne-
son is preparing ~~tents~~ tents being
supplied from
Our enthusiastic friends began about to
to look in a
wonder. I am the "kind-hearted
mother of the party" you know. &
Mrs. G. had one
some miserly Sands that regrets
She will write to Mrs. E. Ever.

Ever

A. G.

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Rec Aug 13th
Ans — 20th

Salt Lake Aug. 8. 1877

My Dear Engelmann

I have yrs of the 30th July, and I return enclosed. Write hereafter to the Palace Hotel, San Francisco.

I trust, & expect, that the Strike-days are over & that you will promptly punish wig-leaders. Glad you have had nice weather; but you have rare air like that of Colorado & Utah. When I return I will see if I can trace the Standish solution of Ottawantha Chimaera.

Well, much as we miss & want you, yet we should have hurried you too much. Horkey is uneasy whenever he is not in fresh botanizing ground, and hurries up, and we want to go over a good deal of ground cursorily, rather than a little thoroughly & leisurely.

I did not write you about the Oaks at Canon City, because we had nothing new to say. We agree with you in the complete running together of the Oaks from to undulata. There is one very large-leaved state, looking very diff. — but it is mostly on fast-growing shoots, & new wood is a state of the "Q. alba. var." of Torr. "alba" indeed!

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But we did not find the entire-leaved form at the Canon, and Brandegee said it occured only at the mouth of the Canon and near the City.

From Canon City we, Mrs. Gray, Hayden & I, went in one day S. to La Veta by rail, and the next day, toward evening up to La Veta Pass, 10300 ft or so, & over 3 or 4 feet lower where we camped, nice tent to ourselves provided by Fat Lyon en route, and otherwise=ing from Fat Garland. Also encelia abrotanifolia & a good amount of S. angustifolia & P. Pseudo. A. Menziesii & Pinus contorta. The A. Menziesii at that elevation is less prickly & sometimes almost as soft as A. Douglasii to the touch, & comes inclined to be A. Menziesii Engelmannii into A. Menziesii. shorter. The result is we think we can trace A. What say you to that!

Botanizing up there & in Sangre de Cristo to Pass good, but only moderate, nothing new, and no great variety. We enjoyed Camp life very well. But after 3 days broke up, and went over to Ft. Garland, & thence, while the ladies & Gen. S. went off to a Mexican Village, we had a 2 day trip up Sierra Blanca. Alpine Plants same as Gray's Rock, but scanty, owing to more S. latitude and greater dryness. A longer time, & a searching of the interior of this very rough range might, & doubtless would, furnish much we did not see. Returning from Ft. Garland to Rail-road, we went back to Colorado Springs & drove up to Manitou. Next day we went up Ute Pass — nothing — & looked about. Next day to Garden of the Gods — to Gen. S. Palmers to dinner — & thence to R. R. & to Denver — Next day Denver. — Next by R. R. through Clear Creek Canon and to Georgetown — or within a mile, & thence up to Kelso's Cabin, now well

Kept house to sleep. Next day Gray's Peak, & I crawled over to tip of ~~Parks~~ Torrey's. Next day, after morning stunning. — Came down to Georgetown & visited Empire City & the Pecks. — Next day, Sunday. — a restful morning & then by rail back to Denver in the afternoon & evening. Monday off at 7½ to Cheyenne, & after dinner took R. R. to Ogden, & came up here last night. To-day a broken day, sight-seeing &c — To-morrow we, or some of us, are going to S. to American Fork Canon, up that and over & pass into Cottonwood Canon — Down that — and back here — in time to go on that afternoon to Ogden & thence W. to Reno. — Thence Virginia City, Carson, & — & the Yosemite, & ——— We shall see, & I will let you know.

Mrs. Gray is not with the party, to see things — & Brigham Young — I will not. — She would be sadly lost to Mrs. Engelmann ~~stories~~. if here — She is very well, & enjoys this travel hugely.

I am strong as a horse too —

& ever yours

Asa Gray

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Rec Aug 30
Ans same day

Black's Hotel,

A. G. BLACK, Proprietor.

mailed Stockton Aug 24

Yosemite, Cal., 21 Aug 1877.

My Dear Engelmann

So long without touching a pen I can hardly form letters. Did I write you from Utah? We left Reno at noon — went to Carson City — with detour to Virginia city — queer place, first got hold of Pinus monophylla — but then no fruit.

Hired conveyance to take us from Carson right across Sierra Nevada, via Silver Mt. to Calaveras Big Trees — a good way for studying the ~~Zoo~~ tree-vegetation — and then — only all other is mainly destroyed by drought & sheep, & the ground is parched dust.

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As we struck Pinus ponderosa
we were struck with more tapering
shape of tree & longer leaves than
that of Colorado — or Rift. —
and Pond, as we saw, by
the immense size of cone —
ovate, 6' long, very heavy.
The big-cone ponderosa has
less bright green & rather longer
leaves, — & cones looking quite
Rift. from the ordinary Californ-
ian ponderosa, which
grows in two mixed — except at
the higher levels, & has long
but narrow cones. Losing
the big one as we descended
to Calaveras, we came on it
again in the Sierra pine, when
we got up to) — & now fruit —
Have it passes for P. Jeffreyi
or Jeffreyi. Is it so? Is it
distinct? On one side of
Silver Mt, we find P. macrophylla.

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with Cones, with maturing &
this years
new growth. Also Cercis,
& Rhus & A. magnifica — coming
finely, especially the latter,
very good sp. So far as we
see the former is the S. Color-
ado A. concolor. But now
here, in the deeper ends, the
foliage gets dr green above,
& the habit dr like A. pectinata,
that I suspect we shall
run it into your true A.
grandis from Mendocino Co.
especially as you give me that
character for it. We must
go to Mendocino Co. & see.
P. muticata about high up,
P. Lambertii, only after getting
well W.
Also Williamsonii — on the higher
passes.
We have missed some but
P. articaulis — which I
suspect is Calif. P. flexilis? Or

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started A. montioola may have been taken for A. pilosella
Isaben Clark here knows it on the high Mts, back of here. We have been only on Sentinel Dome - Shall not get higher - am going to San Francisco.
Too late for you to reach us there. But try me letter to Care of Lemmon, with instructions to forward to Cheyenne, if we have to take Lemmon we can't reach him.
We have worked very hard too hard - one continued grind.
Mrs. Gray — has it terrifically — Mother is tough & hardy. & has enjoyed it.
Asa Gray
Alvan

Rec'd Sept 12 1877

Cbl Co. Sept 5th,

Dear E.

Thanks for your
letter to S. Fr.
We are keeping lively —
are on the way to
Shasta.
What if we were to
return via St. Louis;
Will you ensure us
against malaria &
fever?
Want to talk Criss over
with you.
I send you a 2-leaved
pine, found growing in
grounds at San Jose — &
here. Hey Say Cali=
fornian, but quien sabe?
What is it? We can't ans
guess! Ever yrs
Asa Gray

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GEORGE ENGELMANN PAPERS

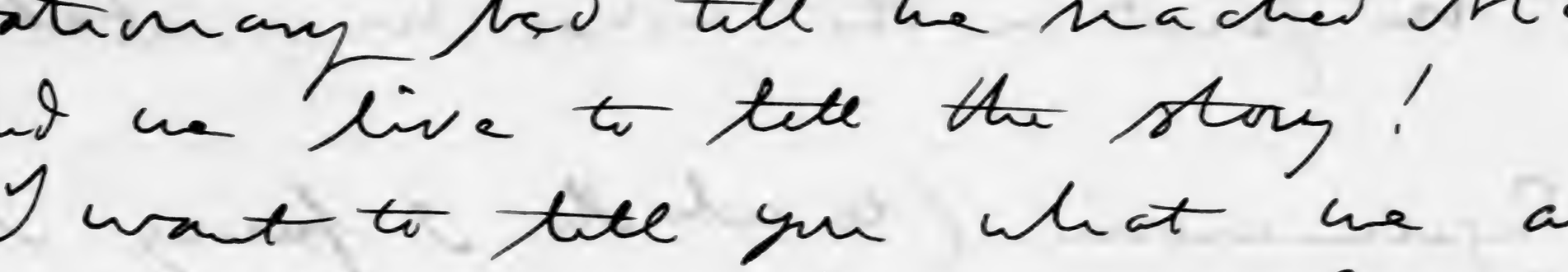
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Rec 27th Sept
Oaks
Chas Lamb Granville, Sept. 24, 1877

My Dear Dr Engelmann.

We are just back, via Niagara, Hoosac and Hudson, and the former having the Sunday with Eaton at Star House. All well and happy to get home after a prosperous and — as you may imagine tedious journey of 10½ weeks The trip to Shasta involved long stage-coach journeys, but was most interesting. Returning to Sacramento we went in to Truckee, where Lemmon joined us by appointment. — We gave one day to Mt. Stanford and one to Tahoe — then took the overland train as it came on at midnight, and thence had no stationary bed till we reached Niagara. And we live to tell the story!

I want to tell you what we are led to think about Pines and Spruces. I will give in this my own opinions, which lie yet open, but are likely to settle down, except you convince me to the contrary on some points. Storker comes to



some conclusions or nearly, but I will keep to my own only in this letter, & ask what you think of them. When and your reply will come to hand before Sir Joseph sails.

Abies Menziesii. In Chusan all the young trees are more or less blue or glaucous. But I saw only one wild tree (in the Canton) which was as blue or rather white as those we raised here and think so much of. A. Menziesii seems not to be known in California, except for north. But on or near Russian River I saw two young trees, when on railway, which must have been of this species, and a third in fruit — the cones unmistakable.

Abies Engelmannii (to which I fancy A. Sitchensis belongs) is to us the high mountain form of A. Menziesii. If they do but just run together, we are greatly deceived. Pleasantry of leaf, size

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of cone and nature & shape of scale, & bark, &c — give us nothing stable to cheer by.

Picea, i.e. Balsam Firs.

We know two good species. Besides the subalpina.

P. concolor is the same (as you say) as the Californian species of lower elevation. And it is the same in species as the P. grandis of Douglas (as to bark, Fl. Bor. Am., but doubtful if Lamb. Pines, as to cone). We did not get up to Blanchets 2 or 3 times near the Coast near Mendocino city. But we found trees plainly like them, viz, long leaves in flat spray, obtuse & mostly emarginate, green alive, — about the Western base of Shasta. And we traced these by every transition into the concolor form, which is most & rather higher up. Blanchet told me there was

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same transition at Mendocino, viz. into shorter, more crowded and erecter glaucous leaves. The name of this species, I suppose, is

P. grandis. — the green pectinata form is your grandis. — the other form extreme is P. concolor. Then comes

P. balsamea? var. subalpina. How did you make out this to be the original P. lasiocarpa? With Hooker's char. "leaves inch & nearly 1½ inch long unicolor" &c — "leaves longer than in any other American species." Sir, it seems to me this ~~must~~ "lasiocarpa" must be another species of P. grandis. And the name P. subalpina is to hold if that be diff. from P. balsamea. By the way Hooker could not see it as diff. from P. concolor as it seemed to me. And I confess that in Waltham at the Falls, as we passed up, from concolor to subalpina, there were trees which at the time I could not make say which.

The remaining distinct species is P. nobilis. We fell on this in Shasta,

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Nev Sept 27 1877 2

higher than, but at upper edge mixed with grandis - var. concolor. Foliage & aspect of the spray very diff. - on mistaking it. Cones larger & with deplexed - obtuse ~~apex~~ bracts. We found none with bracts so large & deflexed as to cover the scales. But Miss & Sisson both said they have them so.

What will most surprise you is - that they both, independently swear that they have seen and gathered all transitions between this large - bracted nobilis & the O. magnifica (= O. amabilis Newberry, - whether of Douglas, who knows? - probably so). We can certify that the trees are absolutely the same. And we have seen plenty of both. - We first struck the magnifica in crossing Sierra near Silver Mt. Here no nobilis (exact bracts) is known, but we have seen cones of it from much further S., viz. in Kern Co., and Muir testifies that there also, there are some reputed bracted cones, some

included (magnifica) and some intermediates. In both forms the fertile branches of old trees bear very short leaves.

About Pines there is nothing more to tell you. The Ponderosa – Jeffreyi – question is a formidable one: but one seems forced to take the view you do, that all must rank under one species.

This is enough for to-day: other matters in due time.

We wished to go via St. Louis & ~~talk~~ talk over these things, but it could not be.

Yours ever. A Gray

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Rec'd Oct 25

Cambridge Oct. 19 (87)

Dear Engelmann

Yesterday (after tea) up every minute - manuf his Plants &c.) & Saturday, and the other most pressing matters seem to - and now let me write a little to you.

I have not collected much - only special things - Sporks did much same.

You ask about Oaks.

We can really not help you at all. Here, we have learned some little for ourselves

We took with us, as ~~[illegible]~~ our Bible, your little Oak paper. and have nothing to say against it.

I cannot say that we can traced Q. vaccinifolia into Q. chrysolepis; but we can believe it. We distinguished Vaccinifolia from agrifolia. We were too [illegible] at Clear Lake - where we might

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You have Euphorbia (California) to do for
Watson, as soon as the Orders are
given Heard.

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have done something
with White Oaks — and so
any things. and as to the
few specimens we brought
home. We have here now
Calif. specimens for comparison
— you have them all.
So as to Platanus, Douglasii,
Fraxinus, I cannot say
what is what, nor if they
need to differ.

There is a dwarf Oak,
which runs a form of
Kelloggii, growing (like Q
Wislizenii, or rather rather the
dwarf Quercus) all along
a region of Pappus Jacin-
mento, where when we ended
barely got to it — but
stopped before we reached
Siskiyou (Shasta)

Then we across we got near
quasi-Shastae-ual? But
when we got there again.

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they were doing. If the little seed I got is worth sending you shall have it.

About Orinus. When you get at them for Watsons Calif. Botany, perhaps I had better send you all we have, & you can take a hand & pick out the best*

can be / needs use.

I have just been winding up the ones which were annalis (magnifica) into parishii, as we (Pollard & Nissen) suppose

---

* I have a duplicate of Bentham's minuta (flav) a 1/2 sh. of Ft. Mazil. which I propose to give you. If you will take it,

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Rec'd Oct 12th 1937

I have 4 cones for my
part ~~of these~~.
Not one with scales, or bracts
or bracteoles quite such as in the
figure of nobilis, and none
with the bracts wholly out of
sight and wholly shorter than
scale as in magnifica.
I send scales & bracts from 3 cones.

A. grandis, L.

I have found in the herb.
here the characters mentioned in
specimens of what you take for
real A. grandis. I was
suspicious of them, from Jepson=
des account, as of a few trees
only, close on shore, and a cliff
from luck in the mts. The
specimens show that they are
much affected by bleak exposure
and they cannot well be the kind
of thing Douglas got on the
Cascade Mts.
From your description of
the true grandis as like
A. procera — [illegible]

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d. — I thought the latest form; i.e. ends turned back of Shasta must be it. But it runs clearly into the cuneifolium

Utah is a step from a Nevada to — and Scales from 2 diff. ones.

— Compare the A. mol= allensis with Park A. balsamica then, it seems diff. — & the scales broader wider. &

I wish you must let the name lasiocarpa drop. Your subspecies is quite from Hooker's character, and otherwise it has been so confused. Then, if ever you get leaves of mol= lis as long as Hooker says, I give up the species

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and join Stokes in saying I
can't tell it from Crucians.

As to A. Emmonsii, the
extremes of that & Menziesii
are most different. But as
in the mountains, we have
with the cons. to— they do
seem folly to run together

I did see plenty of the
blue-dots Menziesii. Went
young trees had it more or less.
But only one wild young tree
in very white

I have not yet sorted out
my small collection. When I
do I may have trips to send
you.

We had found out the L. Spiralis.
They said it was a Californian bog.

I wish we had gone on to
Oregon. We could, if we had
known of the creek moss.

No more to-day. Sargent is away
for a week; too late to get your letter
before starting. Yours, Asa Gray

Rec'd Oct 17th
Ans Same day

HERBARIUM OF HARVARD UNIVERSITY,

BOTANIC GARDEN, CAMBRIDGE, MASS.

Oct. 13 1877

My Dear E.

Looking over my
letters I come on yours of
Aug. 30 -
I put in it that
Mandevilla pedicellata
Mandevilla Atries can-
not be what you take
for true grandis - because
in your letter now before
me you mention
that its leaves are thinner
than in cordata, I
suppose therefore you
have in view the tree
we found at base of Shasta
by L and I think you
will be unable
to separate that from the
Californian cordata.

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I have just come to hand — or divide — when you take up the study of the Calif. Pines. Is

Do you really know anything which answers to Balfouriana?

Surely P. aristata is not found in the Shasta region — else I should think they had an aristata case with the awns knocked off.

I think I wrote you that we had Lemmon with us at Truckee & Tahoe for 2 days. He was rather ramable & lucid.



Prof. Hilgard of the
University of Berkeley
came down at
short notice, and he was very
obliging to us.

Asa Gray

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Rec'd Oct 24th
Ans —

HERBARIUM OF HARVARD UNIVERSITY,

BOTANIC GARDEN, CAMBRIDGE, MASS.

Oct. 20 1877

Dear E.

Hooker made Queenstown
only Thursday Morning f. —
must be home now
— Yours of 15th rec'd —
— I send you Eliza (from Spec.
with care of Orlando's Mendocino
Fir. — and from stem. ~~that~~ t
branch of same. Also leaves
from Specimen "Vancouver's Island,
Kellogg". Acute Specimen.
See what you make of the leaves.
— When you want them I had
better send you all my Calif.
Fir material
I see that Sintenis, like ourselves,
found Abies Menziesii only with less
long & pungent to bracts than
Douglasii —
There are 2 mountain species
(Rocky country) pubalpina). &
you must see if you can make
out a low-country grandis Fir =
tree from your collection.
—

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So there is a Bolsoniana.
I thought it a mucronata.—
But then aristata aristata
was found by Kellogg & Greene in
Owens valley in California—

I am going to send you
letter to Parker.—

— Should be glad of the
Oaks

— When shall I get at
Synopsis again? Juncus
bolanderi? I like him.
But I had to name Astragalus.
Compositae, & Gramineae.
Palmer's made but nice
this year collection, and
out of a dozen shall
Astragalus species 10 I
had to call new species!!

"How does Mrs. Gray
come on after the fatigues
of that overland trip?—
excellently, and no fatigue
to speak of, but much en-
joyment! She likes it well.

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I had only 2 upsets
at all. — the first in
the cars, from Mrs. Engel=
mann's overfeeding her!
The second from want of
proper wrapping the
last day in California —
going up a frosty morning
from Truckee to L. Tahoe.

Some day you must
have a picture of our
camps on Lake Tahoe, Sam,
I wish there could have
been one of the Shasta
Camp, & the Bridges'

When Mrs. Gray gets
a chance, she will write
to Mrs. Engelmann all
about the latter part of
our travels.

Oh. Brandegee. — I thought
I had told you. He acted
queerly, and I was privately
told that he's taken to drink, &

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is as good as gone! A

sad pity,

Yours ever

A. Gray

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Rec Nov 4 '77

HERBARIUM OF HARVARD UNIVERSITY,

BOTANIC GARDEN, CAMBRIDGE, MASS.

Oct. 28 1877

My Dear Dr. Engelmann

Let this introduce — if he needs introduction — my wife's nephew. D. T. Jackson, Jr. who is coming to live in your city — at least to stay. I wish him to know George — a most desirable acquaintance for him.

He goes at 24 hours notice — and as for me our notice, till his trunk had been sent in to the Depot in Boston. So I can't load him with things for you as I could wish. But I'll be sending a box soon — as soon as you get working the Calif. — California. —

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If all goes well, Jackson's
wife & two little boys —
Mrs Grays grandchildren
whom her soul loveth —
will be coming next year,
to tell Mrs. Engelmann.

Thanks in advance for
your taking Jackson by
the hand and giving him
somebody to know, and
I remain

Sincerely Yours

Asa Gray

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The real Q. aristata all. by Kellogg in Mts above Owens valley Calif. is in Acad. San Francisco Museum, with P. flexilis.

Dear E.

Lemmon did not send to me his article — afraid.

You send it, please —

I will write you.

I have asked Dr. Hayden to send you the picture I am camp — for Mrs. E.

A.G.

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Dr. Engelmann
3003 Locust St.
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Missouri

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Rec'd Nov 14 XII
Ans same Day

HERBARIUM OF HARVARD UNIVERSITY,
BOTANIC GARDEN, CAMBRIDGE, MASS.

Nov. 10. 187

My Dear E.

I send you the Mall
of Hookers letter which
tells of his inspection of
the Calif. Pines & Firs
growing in Kew — had to
read, but you will make it
out, by degrees.

It seems they have a
A. Grandis which answers
to yours. —

Return the letter — to be
kept with its other half —

Has D. Hayden sent
you a photograph of our
Camp on La Veta Pass. —
and. if not do you want it?

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I have not yet reached the Cruises in taking care of my little collection — When I do, I think I can send you leaves of Shasta Encelia which have a section like the Marshallia one.

Thanks for Lemmon's account. An odd misconception in it about grandis — meaning amabilis or magnifica.

Yes, Parlatore died and = early. I heard it in California — or so I got back in the Summer. —

I do hope on Sunday (this is Saturday) to get settled down to my regular work on Silene again — a long & sad interruption!

Ever Yours Asa Gray

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Rec Nov 29th
Ans Dec 1st

HERBARIUM OF HARVARD UNIVERSITY,
BOTANIC GARDEN, CAMBRIDGE, MASS.

Monday, 26. Nov. 1877

Dear C.

I return Watkins letter — the Notice deciphered.

The "great axe" of Pinus albicaulis on Shasta — & P. Jeffreyi on Sierra Nevada is judged mainly from the firmness of the wire in small branches, & from the size & base of the branchlets & low trunks.

I think the statements rather rash — as put in letter of Oct. 21st. —

"Sand-blasted" Old & weathered surfaces smoothed & sticked on base of trunks. Watkins paid they were driven by wind. Considering there was little sand about, I doubted, & still doubt.

I will write fuller soon. Yours truly

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will you now take up
the Pines for Calif.
Bot.
Matter has happen
painting.

Yours

A. Gray

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Rec'd Dec 5
An — 15

Dear Engelmann

HERBARIUM OF HARVARD UNIVERSITY,

BOTANIC GARDEN, CAMBRIDGE, MASS.

Ans. Dec. 2 1877

Pat. Jackson is back here for Thanksgiving. When he returns to St. L. (soon) I hope he will be able to take at least the vol. I have minuted for you. And if you wish to retain longer my Calif. Oaks, I must ask him to take also the feathe fern which Hook. & I collected, which I can= not name here altho' I got the Hook. Speci= mens.

Young Jackson is rather skippy about carrying specials. I fancy — Gen. & Parker — corresponding directly — must settle about the

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Curtiss, & I suppose
you soon will.

Applied upon this
Mss. I think, come
from Florida —

—

I suppose you see
Asa Gray's
Oct. 25. Mss Hooker's
portrait & biography —
also a pamphlet — too
printed article by him,
which Dana — without
my knowing, is appointing
in Sill. Journal

I have been writing so
much I can't write plain
at all — & so stop.

Yours Asa Gray

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